DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/17/09 has been entered.

Response to Arguments

Applicant's arguments filed 12/17/09 with respect to claims as amended have been considered.

Applicant has argued that the claimed experimental ranges are critical not merely optimizable elements because they allow for uniform coating and capturing a greater amount of particulates. However, the argument is not persuasive because the ranges do not produce a new or unexpected result. Watanabe et al teaches the same benefit of uniform coating of slurry by a same pressure difference and removal of excess. (Col. 2, Lines 15-44 and Col. 4, Lines 17-35)

Further, since the newly added claim limitations are simply the result of performing the claimed method steps, and the method steps of Watanabe et al. in view of Higuchi et al, including repeatedly performing the pressure difference (1kPa or more) on the axial opposite ends of a catalyst support substrate, are the same steps as recited in the claimed method, the result would reasonably be expected to be within the same range or else the claimed result (porosity%) arises from essential limitations of the process which have not been recited.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art (APA) in view of U.S. Patent 5,182,140 to Watanabe et al. and in further view of U.S. Patent 4,293,357 to Higuchi et al.

Regarding Claims 1 and 4, applicant teaches (Background Paragraphs 2-8) that the prior art teaches a process for producing a filter catalyst, the process comprising a step of preparing a coating slurry in which an inorganic oxide (alumina(powder is dispersed, and coating the coating slurry onto a catalyst-support substrate composed of a porous material having a plurality of cells extending in the axial direction a step of removing the coating slurry in excess from the catalyst-support substrate with the coating slurry coated and a step of drying-calcining the coating slurry. Applicant teaches the invention differs from the prior art in that the removing of the coating slurry in excess is carried out by performing the following steps repeatedly:

a step of holding one of the axial opposite ends of the catalyst-support substrate and another axial opposite end thereof in such a state that a pressure difference is given there between; and a step of holding the one of the opposite ends of the catalyst-support substrate and the other opposite end thereof in an identical pressure state.

However, Watanabe teaches removing of a coating slurry in excess from a support is carried out by performing the following steps repeatedly: a step of holding one of the axial opposite ends of the catalyst-support substrate and another axial opposite end thereof in such a state that a pressure difference is given there between; and a step of holding the one of the opposite ends of the catalyst-support substrate and the other opposite end thereof in an identical pressure state. (*See esp. Col. 12, Line 62 – Col. 13, Line 5 and Figures 5 and 6)*.

It would have been obvious to one of ordinary skill in the art at the time of invention to perform the steps as broadly recited in order to remove the coating in the well known manner as recited by Watanabe et al.

Regarding the Claim 1 limitations that the axial opposite ends have at least two openings alternately sealed, Higuchi et al. teaches the limitations are well known in the catalyst filter art. (See Fig 3-5; Col. 1, Line 64 – Col. 2, Line 9 and Col. 3, Line 1-Col. 5, Line 26) It would have been obvious to one of ordinary skill in the art at the time of invention to provide alternately sealed openings as shown by Higuchi et al. in order to provide a compact and thin filter having low pressure loss and high available area as recited by Higuchi.

Regarding Claims 1 and 4, Watanabe et al. in view of Higuchi et al. does not expressly teach porosity% for pore size as claimed. However, since the newly added claim limitations are simply the result of performing the claimed method steps, and the method steps of Watanabe et al. in view of Higuchi et al, including repeatedly performing the pressure difference (1kPa or more) on the axial opposite ends of a catalyst support substrate, are the same as the claimed method, the result would reasonably be expected to be within the same range or else the claimed result (porosity%) arises from essential limitations of the process which have not been recited.

Regarding Claim 2, Watanabe teaches the pressure of 1kPa or more. (0.2-1.0kg/cm^2)

Regarding Claim 4, Watanabe teaches using a second pressure as broadly recited since the pressure providing process may be performed repeatedly (1-3 times).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art ((APA) in view of U.S. Patent 5,182,140 to Watanabe et al. and U.S. Patent 4,293,357 to Higuchi et al. as applied above to Claims 1, 2 and 4 and in further view of JP 2002-204958 to Nakamura et al.

Regarding Claim 3, the Admitted Prior Art (APA) in view of Watanabe et al. does not expressly teach oxide powder particle diameter 70% value of 1 micron or less. However, slurries having particle sizes within the nano-scale to micro-scale range are well known in the art. For example, Nakamura et al. teaches adjusting particle size for exhaust type catalyst slurry in the range 0.1-5 microns. (*See attached abstract*) It would have been obvious to one of ordinary skill in the art at the time of invention to provide a suitable slurry particle diameter distribution for exhaust type slurry to be deposited on a support.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (571) 272-1433. The examiner can normally be reached on Monday-Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roberts Culbert/
Primary Examiner, Art Unit 1792